

The claimed invention is:

1. A method of cleaning a hard surface, said method comprising:  
applying a non-corrosive, low-fuming composition to the surface, said  
composition comprising:
- (a) from about 0.1 wt-% to 20.0 wt-% of a detergent builder;
  - (b) from about 0.1 wt-% to 20 wt-% of an alkalinity source effective to provide a pH of from about 10 to 14 to said composition;
  - (c) from about 0.0 wt-% to 5.0 wt-% of a thickening agent to promote adhesion of said thickened, non-corrosive composition to the surface upon application;
  - (d) from about 0.0 wt-% to 5 wt-% of fatty acid stabilizer to maintain a homogenous mixture of said builder, thickening agent, and alkalinity source;
  - (e) from about 0.0 wt-% to 5.0 wt-% of anionic surfactant effective to provide detergency to the thickened, non-corrosive low-fuming composition said anionic surfactant selected from the group consisting of an alkyl sulfate, an alkyl sulfonate, a disulphonate compound, an alkyl ether sulfate, an alkyl ether sulfonate, and mixtures thereof;
  - (f) from about 0.0 wt-% to about 2.0 wt-% of a metal ion chelator; and
  - (g) a balance of water.

wherein the cleaner is substantially free of chlorine.

2. The method of claim 1, wherein said surface is substantially vertical, and wherein said composition contains at least 0.1% of a thickening agent.

3. The method of claim 2, wherein upon application of said non-corrosive composition to the substantially vertical surface at least about 75 wt-% of the applied

RECEIVED  
FEB 23 1990

Sub  
A5

LAW OFFICES

FINNEGAN, HENDERSON,  
FARABOW, GARRETT,  
& DUNNER, L.L.P.  
1300 I STREET, N. W.  
WASHINGTON, DC 20005  
202-408-4000

Sub C

92218-1

non-corrosive low-fuming composition adheres to the surface for a time period up to about 30 minutes.

4. The method of claim 1, wherein said thickening agent comprises one or more polycarboxylate polymers.

5. The method of claim 1, wherein said detergent builder comprises an alkali metal tripolyphosphate.

6. The method of claim 5, wherein the alkali metal tripolyphosphate is sodium tripolyphosphate.

7. The method of claim 1, wherein said alkalinity source is an alkali metal hydroxide and is present in an amount of from about 0.1 wt-% to about 3 wt-%.

8. The method of claim 1, wherein said composition ion comprises at least 0.1% of a fatty acid selected from stearic acid, palmitic acid, tallow fatty acid, coco fatty acid, oleic acid, myristic acid, or mixtures thereof.

9. The method of claim 1, wherein said composition includes at least 0.1% of a metal ion chelator.

10. A thickened hard surface cleaning composition comprising:

- (a) from about 0.1 wt-% to 20.0 wt-% of a detergent builder;
- (b) from about 0.1 wt-% to 5 wt-% of a thickening agent effective to provide increased viscosity;
- (c) from about 0.1 wt-% to 3.0 wt-% of alkali metal hydroxide to provide a pH of about 10 to 14;
- (d) from about 0.0 wt-% to 5.0 wt-% of an anionic surfactant to provide detergency to the composition;

LAW OFFICES

FINNEGAN, HENDERSON,  
FARABOW, GARRETT,  
& DUNNER, L.L.P.  
1300 I STREET, N. W.  
WASHINGTON, DC 20005  
202-408-4000

- sub 17*
- (e) from about 0.0 wt-% to 5 wt-% of a fatty acid stabilizer effective to maintain a homogenous mixture of said detergent builder, thickening agent, and alkali metal hydroxide;
  - (f) from about 0.0 wt-% to about 2.0 wt-% of a metal ion chelator; and
  - (g) a balance of water.

wherein said composition is substantially free of chlorine.

11. The method of claim 9 wherein the detergent builder is alkali metal tripolyphosphate.

*sub 12*

12. The composition of claim 10, wherein said composition has a viscosity ranging from about 30 to 10,000 Cps. at 25° C.

13. The composition of claim 10, wherein said composition has a pH of about 12 to 13.5.

14. The composition of claim 10, wherein said composition comprises from about 0.1 wt-% to 3.0 wt-% of an alkali metal hydroxide and the pH of said composition is greater than about 11.

15. The composition of claim 10, wherein said composition comprises:

- sub 18*
- (a) from about 1.0 wt-% to 20.0 wt-% of an alkali metal tripolyphosphate;
  - (b) from about 0.1 wt-% to 3.0 wt-% of sodium hydroxide;

16. The composition of claim 15, wherein said alkali metal tripolyphosphate comprises sodium tripolyphosphate.

17. A method of cleaning a substantially vertical surface with an adherent, thickened, non-corrosive low-fuming composition, said method comprising applying said composition to substantially vertical surface, said composition comprising:

LAW OFFICES

FINNEGAN, HENDERSON,  
FARABOW, GARRETT,  
& DUNNER, L.L.P.  
1300 I STREET, N. W.  
WASHINGTON, DC 20005  
202-408-4000

- (a) from about 0.1 to 20.0 wt-% of a detergent builder;
- (b) from about 0.1 to 1.0 wt-% of a thickener; and
- (c) from about 0.1 to about 3.0 wt-% of an alkali metal hydroxide alkalinity source providing a compositional pH of greater than about 11;
- (d) from about 0.05 to 5 wt-% of an anionic surfactant said anionic surfactant selected from the group consisting of a sulphate compound, a sulphonate compound, a disulphonate compound and mixtures thereof; and
- (e) from about 0.0 to 5 wt-% of a fatty acid stabilizer effective to maintain a homogenous mixture of said detergent builder, thickening agent, and alkali source wherein said composition has a viscosity ranging from about 30 to 10000 Cps at 25° C and, upon application, at least about 75 wt-% of the non-corrosive, low fuming composition adheres to the surface of application for at least about 30 minutes.

18. The method of claim 15, wherein upon application to the substantially vertical surface, at least about 85 wt-% of the applied cleaner adheres to the surface for a time period up to about 30 minutes.

19. The method of claim 15, wherein upon application to the substantially vertical surface, at least about 95 wt-% of the applied cleaner adheres to the surface for a time period up to about 30 minutes.

20. The method of claim 15, wherein said detergent builder comprises an alkali metal tripolyphosphate.

21. The method of claim 20, wherein said alkali metal tripolyphosphate is sodium tripolyphosphate.

22. The method of claim 15, wherein the surface comprises a material, said material selected from the group consisting of metal alloys, and enameled surfaces.

23. A method of cleaning a hard surface, said method comprising:  
applying a non-corrosive, low-fuming composition to the surface, said composition consisting essentially of:

- (h) from about 0.1 wt-% to 20.0 wt-% of a detergent builder;
- (i) from about 0.1 wt-% to 20 wt-% of an alkalinity source effective to provide a pH of from about 10 to 14 to said composition;
- (j) from about 0.0 wt-% to 5.0 wt-% of a thickening agent to promote adhesion of said thickened, non-corrosive composition to the surface upon application;
- (k) from about 0.0 wt-% to 5 wt-% of fatty acid stabilizer to maintain a homogenous mixture of said builder, thickening agent, and alkalinity source;
- (l) from about 0.0 wt-% to 5.0 wt-% of anionic surfactant effective to provide detergency to the thickened, non-corrosive low-fuming composition said anionic surfactant selected from the group consisting of an alkylsulfate, an alkyl sulfonate, a disulphonate compound, an alkyl ether sulfate, an alkyl ether sulfonate, and mixtures thereof;
- (m) from about 0.0 wt-% to about 2.0 wt-% of a metal ion chelator; and
- (n) a balance of water.

*add A10*

*add A11*

*add B10*  
*add C3*

LAW OFFICES

FINNEGAN, HENDERSON,  
FARABOW, GARRETT,  
& DUNNER, L.L.P.  
1300 I STREET, N. W.  
WASHINGTON, DC 20005  
202-408-4000